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AUTHOR Edwards, Elizabeth; Montemurro, Theodore J.
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ABSTRACT

A demonstration preschool program based on Piagetian principles and integrating handicapped children with their normal peers is described. Findings on the behavior styles of the children are cited based on the Coping Analysis Schedule for Educational Settings. It is explained that as groups, the non-handicapped and handicapped Ss exhibit similar styles of behavior in each of the settings (program-directed and teacher directed choice settings). Eight coping styles are delineated, including passive, withdrawn, avoidant, dreamy; and assertive, socially integrative, and task oriented. Interactions between handicapped and non-handicapped children, recorded along the transactional categories of CASES, are reported by frequencies and percentages for sex and age. Among findings discussed is that appropriate integrative play accounted for more than two-thirds of the interactions initiated by non-handicapped children toward handicapped children. (CL)

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THE BEHAVIOR OF PRESCHOOL HANDICAPPED CHILDREN
AND THEIR INTERACTIONS WITH MODEL CHILDREN

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Theodore J. Montemurro

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The San Jose State University Model Demonstration Preschool program is currently in its second year at the Institute for Research in Child Development. Since September, 1977, the program has been serving six handicapped children integrated with fourteen model children. During the first two years, the behavior styles of handicapped and non-handicapped children and their interactions have been recorded using the Coping Analysis Schedule for Educational Settings (CASES) (Spaulding & Papageorgiou, 1977). This paper reports on preliminary descriptive results.

The theoretical orientation of the Model Demonstration Preschool is derived from the epistemological studies of Jean Piaget on the construction knowledge. Although Piaget has not addressed the subject of the application of his theoretical formulations to classroom curriculum, he has acknowledged the importance of his advances in the field of pedagogy (Piaget, 1972). Three salient aspects of Piaget's theory provide the foundation upon which the goals and curriculum of the Demonstration Preschool have been developed. The first aspect relevant to curriculum development is that learning must be an active process (Wickens, 1973; Kami, 1973; Neufeld, 1976). Intelligence, or the development of cognitive

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structures, comes as a result of the actions of the child, not the actions of the adults in the child's world. The second aspect suggests the importance of social interactions among children (Kami, 1973; Wickens, 1973) as one of the ways of helping children become less egocentric. The third aspect emphasizes the importance of intellectual activity based on actual experiences rather than on language (Kami, 1973; Furth, 1970). "For the child language is not some abstract proposition which challenges the intelligence .. but is the same stuff as his play, his gestures and his images." (Furth, 1970).

In the Demonstration Preschool program, each child is thought of as an initiator or motivator within a carefully prearranged environment in which each child can operate at his/her own developmental level. The goal of this interaction is the encouragement of self-directed learning and the gaining of social independence through the medium of child's play. Opportunities for interaction with people, action on objects, movement in space and time for reflection nurture and direct the child's play. (Hagan, 1978).

The curriculum of the preschool represents a traditional nursery school program (Read, 1971) within a Piagetian framework. Activities are multi-level and multi-dimensional, providing for sensory exploration as well as providing experience with different levels of representation and elementary types of relationships (Kami, 1967).

Three main settings exist within the program: program directed choice (both indoors and outdoors), teacher directed choice, and teacher directed. Within the program directed choice, a variety of teacher designed, cognitively based activities are presented. The child is expected to choose activities in which to become involved. Indoors, these activities include: clay, cooking, manipulatives, blocks (large and small), dramatic play, art (easels and collage),

music and dancing. The outdoor program includes: sand and waterplay, climbing, dramatic play, push/pull toys, special obstacle courses, and other special activities such as grinding wheat. Teacher directed choice activities exist within the program directed choice in that any one of the above mentioned activities could require the presence of a teacher, and children have opportunities for choice in terms of materials and/or circumstances of activity. Cooking generally requires the teachers's presence. Other teacher directed choice activities include recording experiential stories and holding and observing a variety of animals (rabbits, snakes, turtles, rats, mice). Teacher directed settings involve large group activities and include: story telling, sharing, songs, and finger plays. All children are expected to participate in such activities.

All children in the program range in age between three and five years. The handicapped children in the program represent a wide range of mild to moderate conditions. During the 1977-78 academic school year, four handicapped children were enrolled in the preschool: two Downs Syndrome children, one child with mild cerebral palsy and resulting language delay, and one child considered at risk. During the summer, a visually handicapped child and a developmentally delayed child were enrolled. During the past academic year, 1978-79, the preschool has served the same two Downs Syndrome children, the same child considered at risk and the same visually handicapped child. One developmentally delayed child and one child with a language delay have been enrolled. Fluctuations in the enrollment of non-handicapped children has occurred in Summer 1978 and again in Fall 1978. Approximately half of the original group of non-handicapped children remains enrolled in the program. Such enrollment fluctuations will affect the nature of the environment and the nature of the behavior of both groups.

As part of the ongoing documentation of the Demonstration Preschool, extensive observations of the children are recorded using the Coping Analysis Schedule for Educational Settings (CASES) developed by Robert L. Spaulding, Ph.D. (1975). This instrument is specifically designed for observation in educational settings to evaluate the process of socialization. The observation categories are based on ego theory and personality development. Developed over a period of seven years from over 2,000 case studies, the CASES instrument includes nineteen categories of observable behavior, ranging from aggressive to integrative to passive behavior (see Table 1.) Within the given context of the environment, such behaviors may be appropriate or inappropriate according to cultural norms or teacher expectations. Refined empirically through individual case studies, groups of behaviors have been factor analyzed to reflect a coping style. Eight coping styles have been delineated (Spaulding, 1975):

Style A: dominitive, active aggressive, annoying, bothering, controlling, manipulating

Style B: resistant, passive aggressive, delaying, peer-oriented, off task

Style C: passive, withdrawn, avoidant, dreamy

Style D: peer dependent, distractible, off task

Style E: attentive, adult oriented, compliant

Style F: assertive, socially integrative, task-oriented

Style G: appropriately task-oriented, independent, self motivated

Style H: conforming, passive, submissive to direction

A visibility threshold has been empirically developed for each style so that a coefficient of 1.00 represents a point one standard deviation above the mean obtained for each style.

In the Model Demonstration Preschool, CASES group data are collected on all children over a period of two days. During the observation period, five to ten

Table 1.

The Coping Analysis Schedule for Educational Settings (CASES)

(Brief Form)

No.	Description (Abbreviated)
1	Aggressive, hurtful, destructive behavior
2	Negative attention-getting behavior
3a	Controlling others in a pro-social manner
3b	Controlling others in a self-serving manner
4	Resisting, delaying, defensive checking
5a	Appropriate self-directed, independent activity
5b	Inappropriate self-directed, independent activity
6a	Paying close attention in accordance with teacher expectations
6b	Paying close attention to events <u>unrelated to the task at hand</u>
7a	Integrative sharing and helping in accordance with teacher expectations
7b	Integrative sharing and helping <u>in conflict</u> with teacher expectations
8a	Integrative social transactions in accordance with teacher expectations
8b	Integrative social transactions <u>in conflict</u> with teacher expectations
9a	Integrative seeking and receiving help in line with teacher expectations
9b	Integrative seeking and receiving help <u>in conflict</u> with teacher expectations
10	Following directions and teacher expectations obediently and submissively
11	Observing passively and checking on noises and movements of others
12	Responding to internal stimuli and not in close contact with the environment
13	Physical withdrawal and avoidance of involvement in classroom activities

children are consistently observed across all settings. Of these five to ten children, one to six may be observed at any one time, with a minimum of 25 tallies apiece.

The mean coefficients of the eight behavior styles for non-handicapped children and handicapped in teacher directed settings for Fall, 1977 through Winter, 1979, are displayed in Table 2. By inspection it can be readily noted that the predominant behaviors for the two groups is Style E, adult dependence. This behavior style is characterized by attending carefully, sharing information and seeking information, and commonly observed in such activities as storytelling. The teacher's skill in telling a story is clearly the major factor in enhancing this behavior. The manner in which a story is told by the teacher and the way the teacher invites the children to share their information contributes significantly to the attending, sharing and seeking behaviors of the teacher's audience. Self-directed behavior, Style G, approaches visibility in nearly each quarter for both groups, indicating that some of the activities require self-directed behavior. The predominance of Style G over Style H also indicates that the children are active participants rather than passive observers. There is a clear tendency for the behaviors of both groups to parallel one another, perhaps indicating a modeling effect.

The behavior styles of both groups for teacher directed choice settings are displayed by mean coefficients in Table 3. for Fall, 1977 through Winter, 1979. Reliance upon the teacher for both groups is still evident by the consistently visible Style E behaviors. With new and younger children entering the program in the Fall, 1978, adult dependence dominates even more. Self-directed behaviors (Style G) occur at a higher rate for both groups in this setting than had occurred in the teacher directed setting, again demonstrating that even though the children

Table 2.

Mean Coefficients of the Eight Behavior Styles for Non-Handicapped and Handicapped Children in Teacher Directed Setting for Fall '77 through Winter '79.

STYLES									
Group	N	A	B	C	D	E	F	G	H
FALL '77									
Non-handicapped	14	.08	.03	.33	.05	2.50	.31	.91	.28
Handicapped	5	.11	.27	.00	.38	2.15	.09	.79	.43
SPRING '78									
Non-handicapped	14	.06	.07	.00	.03	3.43	.57	.42	.09
Handicapped	5	.09	.25	.00	.12	2.94	.03	.72	.22
SUMMER '78									
Non-handicapped	14	.06	.12	.00	.09	2.72	.14	.91	.20
Handicapped	7	.00	.16	.05	.01	2.44	.00	.88	.52
FALL '78									
Non-handicapped	14	.21	.13	.06	.03	3.09	.10	.74	.19
Handicapped	7	.00	.10	.02	.01	2.86	.05	.95	.17
WINTER '78									
Non-handicapped	14	.06	.13	.03	.03	2.94	.28	.71	.21
Handicapped	6	.00	.12	.00	.04	2.58	.05	.77	.55

Table 3.

Mean Coefficients of the Eight Behavior Styles for Non-Handicapped and Handicapped Children in Teacher Directed Choice Settings for Fall'77 through Winter '79

STYLES									
Group	N	A	B	C	D	E	F	G	H
FALL '77									
Non-handicapped	14	.10	.07	.00	.16	.57	.44	1.88	.29
Handicapped	5	.00	.01	.00	.00	1.31	.04	1.79	.34
SPRING '78									
Non-handicapped	14	.23	.06	.00	.12	1.38	.41	1.71	.06
Handicapped	5	.00	.02	.00	.00	2.16	.11	1.53	.02
SUMMER '78									
Non-handicapped	14	.00	.34	.00	.00	1.50	1.44	1.86	.00
Handicapped	7	.00	.02	.00	.03	1.25	.54	1.76	.34
FALL '78									
Non-handicapped	14	.05	.21	.01	.03	3.65	.03	.45	.11
Handicapped	6	.00	.04	.48	.03	4.04	.00	.38	.06
WINTER '78									
Non-handicapped	14	.14	.09	.00	.00	3.59	.24	.38	.25
Handicapped	6	.00	.24	.00	.01	2.44	.09	1.07	.19

are under the direction of a teacher, the activities engaged in require active self-directed participation, rather than passive observant participation. Again, the dominant behavior of both groups tends to reveal similarities rather than differences.

In Program Directed Choice settings (see Table 4) socially integrated behavior (Style F) emerges as a frequently observed behavior, particularly within the more mature non-handicapped children. In these settings, children engage in productive, often cooperative play, showing less reliance upon adults. Children are often seen playing house, using blocks and other play instruments to aid their dramatic representations of life. The handicapped children tend to be more self-directed (Style G) rather than socially integrative (Style F). The play of handicapped children, particularly the Downs Syndrome children, is more solitary or parallel rather than cooperative, with some need for adult dependence (Style E). The absence of articulate speech within some of the handicapped children tends to diminish their ability to engage in cooperative play and reflects their developmental delay. Again, the similarities in the behaviors of both groups is evident.

As groups, the non-handicapped children and handicapped children exhibit very similar styles of behavior in each of the settings. Socially integrative behavior (Style F) appears to be the only style that reveals a distinct difference between the two groups. Within the preschool years, Style F is characteristic of children who can engage in cooperative play. Some of the handicapped children, particularly the two Downs Syndrome children, are just beginning to develop cooperative play which can account for the difference in the amount of Style F behavior.

Table 4.

Mean Coefficients of the Eight Behavior Styles for Non-Handicapped and Handicapped Children in Program Directed Choice Settings for Fall '77 through Winter '79.

STYLES									
Group	N	A	B	C	D	E	F	G	H
FALL '77									
Non-handicapped	14	.17	.06	.00	.05	.54	2.04	1.28	.01
Handicapped	5	.08	.05	.00	.13	1.11	.77	1.65	.02
SPRING '78									
Non-handicapped	14	.05	.03	.00	.00	.60	2.58	1.00	.01
Handicapped	5	.09	.09	.00	.00	.75	1.18	1.64	.04
SUMMER '78									
Non-handicapped	14	.02	.06	.00	.02	.61	1.79	1.42	.00
Handicapped	7	.16	.04	.00	.07	.75	1.26	1.58	.04
FALL '78									
Non-handicapped	14	.21	.11	.20	.05"	.73	1.40	1.52	.03
Handicapped	7	.10	.13	.00	.03	.72	.82	1.43	.02
WINTER '78									
Non-handicapped	14	.09	.02	.00	.00	.79	1.75	1.37	.00
Handicapped	6	.00	.02	.01	.00	1.04	.98	1.65	.03

The interactions between handicapped children and non-handicapped have been recorded using the transactional categories of CASES and are reported by frequencies and percentages for sex and age (see Table 5.). Since many of the nineteen behaviors included in the CASES instrument are not interactive, converting the interactive behavior into styles is improper. The interactive behaviors represented in Table 5 have been initiated by non-handicapped children towards handicapped children. Of the nine hundred seventy-nine transactions recorded, ninety seven percent of the interactions have been classified as appropriate. Appropriate integrative play accounted for more than two-thirds of the interactions initiated by non-handicapped children toward handicapped children. Nearly ten percent of the interactions are represented by careful observation of handicapped children by non-handicapped. The remaining interactions reported occurred infrequently but were predominantly appropriate. Describing the interactions by sex and age of the non-handicapped children without equal or proportional samples would be misleading.

Represented in Table 6 are the frequencies and percentages of the interactions by non-handicapped children toward handicapped children by settings and activities. As could be predicted, eighty seven percent of the interactions occurred in program directed choice settings. Activities that commonly occur outside, such as outside play and water/sand play, accounted for nearly half of the interactions. Other activities that seem to enhance interactions are manipulatives, cooking/eating, arts/crafts, and dramatic play.

Displayed in Table 7 are the frequencies and percentages of the interactions among handicapped children by settings and activities. Nearly all of the interactions (93%) occurred in program directed choice settings. For the handicapped children, activities such as block play, dramatic play, and outside play, appear

Table 5. Frequencies and Percentages of Parallel Play and Transactional Activities of 17 Non-handicapped (Model) with 6 Handicapped Children in an Integrated Model Preschool by Age and Sex

Group		Parallel Play				Transactional Categories (All transactions involving handicapped)																			
Sex	Age (Yrs)	N %		5a ⁱ		5b		3a		3b		6a		7a		7b		8a		8b		9a		Totals	
				N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Boys	3	1 (5.9)						4 (.4)				8 (.8)	1 (.1)					15 (1.5)			1 (.1)			29 (2.9)	
	4	3 (17.6)		19 (2.0)	2 (.2)		17 (1.7)	1 (.1)		2 (.2)		6 (.6)					254 (25.9)			5 (.5)			306 (31.2)		
	5	3 (17.6)					19 (2.0)	5 (.5)		27 (2.8)							148 (15.1)	3 (.3)		1 (.1)			203 (20.8)		
	Boys	7 (41.2)		19 (2.0)	2 (.2)		40 (4.1)	6 (.6)		37 (3.8)		7 (.7)					417 (42.6)	3 (.3)		7 (.7)			538 (55.0)		
Girls	3	5 (29.4)		13 (1.3)				8 (.8)	3 (.3)		40 (4.1)	14 (1.4)					124 (12.7)	1 (.1)		5 (.5)			208 (21.2)		
	4	5 (29.4)		9 (.9)			19 (2.0)	7 (.7)		14 (1.4)	29 (2.9)	1 (.1)					127 (13.0)			27 (2.8)			233 (23.9)		
	Girls	10 (58.8)		22 (2.2)			27 (2.8)	10 (1.0)		54 (5.5)	43 (4.4)	1 (.1)					251 (25.6)	1 (.1)		32 (3.3)			441 (45.0)		
Boys and Girls	3	6 (35.3)		13 (1.3)				12 (1.2)	3 (.3)		48 (4.9)	15 (1.5)					139 (14.2)	1 (.1)		6 (.6)			237 (24.1)		
	4	8 (47.1)		28 (2.9)	2 (.2)		36 (3.7)	8 (.8)		16 (1.6)	35 (3.5)	1 (.1)					381 (38.9)			32 (3.3)			539 (55.1)		
	5	3 (17.6)					19 (2.0)	5 (.5)		27 (2.8)							148 (15.1)	3 (.3)		1 (.1)			203 (20.8)		
	All	17 (100)		41 (4.2)	2 (.2)		67 (6.9)	16 (1.6)		91 (9.3)	50 (5.1)	1 (.1)					668 (68.2)	4 (.4)		39 (4.0)			979 (100)		

Note: Empty cells represent no behavior observed in that category.

¹Category descriptions: 5a = appropriate imitative parallel play
 5b = inappropriate imitative parallel play
 3a = appropriate directing of others
 3b = inappropriate directing of others
 6a = paying close attention to appropriate behavior of others

7a = appropriate initiation of integrative activity
 7b = initiation of inappropriate integrative activity
 8a = appropriate integrative activity
 8b = inappropriate integrative activity
 9a = giving assistance to a handicapped child

Table 6. Frequencies and Percentages of Parallel Play and Transactional Activities of 17 Non-handicapped (Model) Children with 6 Handicapped Children in an Integrated Model Preschool Program

Settings		Parallel Play		Transactional Categories (Model children transacting with handicapped children)								Totals	
Setting Code	Description	5a ¹	5b	3a	3b	6a	7a	7b	8a	8b	9a	Totals	
		N %	N %	N %	N %	N %	N %	N %	N %	N %	N %	N %	N %
PDC	Water/Sand Play			18 (1.8)		4 (.4)	1 (.1)		101 (10.3)		1 (.1)	124 (12.7)	
PDC	Manipulatives	1 (.1)		4 (.4)	1 (.1)	26 (2.7)	7 (.7)		116 (11.9)			155 (15.8)	
TDC	Cooking/Eating	18 (1.8)		3 (.3)		6 (.6)	1 (.1)		39 (4.0)		6 (.6)	73 (7.5)	
PDC	Arts/Crafts	9 (.9)		12 (1.2)	2 (.2)	5 (.5)	11 (1.1)		62 (6.3)			101 (10.3)	
PDC	Outside Play	13 (1.3)		15 (1.5)		17 (1.7)	22 (2.3)		274 (28.0)			341 (34.8)	
PDC	Dramatic Play			7 (.7)	2 (.2)	8 (.8)	8 (.8)		41 (4.1)		32 (3.3)	98 (10.1)	
PDC	Block Play			5 (.5)					35 (3.6)			40 (4.1)	
TD	Storytime/Books			3 (.3)	2 (.2)	25 (2.6)		1 (.1)		4 (.4)		35 (3.6)	
TD	Transition		2 (.2)		9 (.9)							11 (1.1)	
TDC	Science			1 (.1)								1 (.1)	
Totals		41 (4.1)	2 (.2)	67 (6.8)	16 (1.6)	91 (9.3)	50 (5.1)	1 (.1)	668 (68.2)	4 (.4)	39 (4.0)	979 (100)	

Note: Empty cells represent no behavior observed in that category.

- ¹Category descriptions:
- | | |
|---|---|
| 5a = appropriate imitative parallel play | 7a = appropriate initiation of integrative activity |
| 5b = inappropriate imitative parallel play | 7b = initiation of inappropriate integrative activity |
| 3a = appropriate directing of others | 8a = appropriate integrative activity |
| 3b = inappropriate directing of others | 8b = inappropriate integrative activity |
| 6a = paying close attention to appropriate behavior of others | 9a = giving assistance to a handicapped child |

Table 7. Frequencies and Percentages of Parallel Play and Transactional Activities of Six Handicapped Preschool Children in an Integrated Model Preschool Program

Settings		Parallel Play		Transactional Categories (Handicapped transacting with Handicapped)																			
Setting Code	Description	5a ¹		5b		3a		3b		6a		7a		7b		8a		8b		9a		Totals	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
PDC	Music	8	(1.5)																			8	(1.5)
PDC	Water/Sand Play					1	(.2)	2	(.4)			3	(.6)									6	(1.2)
PDC	Manipulatives	3	(.6)			5	(.9)	1	(.2)	8	(1.5)	10	(1.9)			15	(2.8)					42	(7.9)
TDC	Cooking/Eating			3	(.6)					2	(.4)	1	(.2)									6	(1.2)
PDC	Arts/Crafts					5	(.9)			20	(3.7)	11	(2.1)			38	(7.1)					74	(13.8)
PDC	Outside Play	3	(.6)			5	(.9)	5	(.9)	12	(2.2)	3	(.6)			73	(13.7)					101	(18.9)
PDC	Dramatic Play	3	(.6)									5	(.9)			120	(22.5)		1	(.2)		129	(24.0)
PDC	Block Play	5	(.9)					9	(1.7)	12	(2.2)	2	(.4)			112	(21.0)					140	(26.2)
TD	Storytime/Books									25	(4.7)											25	(4.7)
TD	Transition																						
PDC	Science					3	(.6)															3	(.6)
Totals		22	(4.2)	3	(.6)	19	(3.5)	17	(3.2)	79	(14.7)	35	(6.7)			358	(67.1)			1	(.2)	534	(100)

Note: Empty cells represent no behavior observed in that category.

¹Category descriptions: 5a = appropriate imitative parallel play 7a = appropriate initiation of integrative activity
5b = inappropriate imitative parallel play 7b = initiation of inappropriate integrative activity
3a = appropriate directing of others 8a = appropriate integrative activity
3b = inappropriate directing of others 8b = inappropriate integrative activity
6a = paying close attention to appropriate behavior of others 9a = giving assistance to a handicapped child

to encourage the interactions. The handicapped children's interactions were strikingly similar to the interaction initiated by non-handicapped toward handicapped. Over ninety percent of the interactions were appropriate, with integrative play accounting for two-thirds of the interactions.

The behavior of handicapped children and non-handicapped children are represented by similar rather than dissimilar styles. Integrative social behavior, Style F, emerges as perhaps a distinct difference between handicapped children and non-handicapped, particularly for handicapped children with developmental delay (Downs Syndrome). Interactions whether initiated by non-handicapped children or handicapped children towards handicapped is clearly appropriate, with integrative activity the predominant behavior. The interactions occurred, as predicted, in program directed settings where children are free to engage in many forms of play.

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